

Appl. No. 10/033,205
Amtd. dated January 28, 2004
Reply to Office Action of October 28, 2003

Amendments to the Specification:

Please replace the Summary Of The Invention section of the specification, originally starting at the top of page 5 and continuing through page 7, line 5, with the below replacement section, which includes amendments related to the amendments to the claims (see below). No new matter is added in the replacement section.

SUMMARY OF THE INVENTION

The present invention is embodied in a golf ball component selected from the group consisting of a core, a cover[[,]] and an intermediate layer located between a golf ball core and a cover, the golf ball component incorporating a particular triblock copolymer, a base polymer, and a polymeric modifier. The triblock copolymer has a first polymer block comprising an aromatic vinyl compound. The triblock copolymer also includes a second polymer block, which includes a first compound selected from the group consisting of a diene compound and a hydrogenation product of the diene compound. In addition, the triblock copolymer includes a third polymer block including a second compound selected from the group consisting of a diene compound, a hydrogenation product of the diene compound, and an aromatic vinyl compound. Furthermore, the triblock copolymer includes at least one hydroxyl group. The polymeric modifier is selected from the group consisting of an impact modifier, a functionalized polymer, or a mixture of these. The impact modifier is selected from the group consisting of methyl methacrylate butyacrylate styrene, methyl methacrylate ethyl hexylacrylate styrene, methacrylate-butadiene-styrene, ethylene vinyl acetate, acrylonitrile-butadiene-styrene, and chlorinated polyethylene. The functionalized polymer incorporates a copolymer or a terpolymer having a glycidyl group, hydroxyl group, maleic anhydride group or carboxylic group, or a mixture of these copolymers and terpolymers.

The base polymer can incorporate an ionomeric polymer comprising copolymeric polymers, terpolymeric polymers, or mixtures of these. The base polymer also can incorporate a non-ionomeric polymer. The ratio by weight of the triblock copolymer to the base polymer in the golf ball component preferably ranges between about 10:90 and about 90:10, more preferably

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between about 10:90 and about 70:30, and most preferably between about 10:90 and about 60:40.

When incorporating the impact modifier, the golf ball component incorporates the impact modifier in an amount between about 0.1 and about 15 parts per hundred by weight of the total amount of the triblock copolymer and the base polymer, and more preferably between about 1 and about 10 parts per hundred. Particularly preferred impact modifiers include acrylic impact modifier, ethylene vinyl acetate, polyaryl ether, acrylonitrile butadiene styrene, methacrylate butadiene styrene, chlorinated polyethylene, or mixtures of these. Particularly preferred acrylic impact modifier includes methyl methacrylate butylacrylate styrene, methyl methacrylate ethyl hexylacrylate styrene, or mixtures of these. When incorporating the functionalized polymer, the golf ball component preferably incorporates the functionalized polymer in an amount between about 0.1 and about 15 parts per hundred by weight of the total amount of the triblock copolymer and the base polymer, more preferably between about 1 and about 10 parts per hundred. The golf ball component preferably incorporates a total amount of polymeric modifier less than about 20 parts per hundred by weight of the total amount of the triblock copolymer and the base polymer, and more preferably less than about 15 parts per hundred.

Golf ball components within the scope of the present invention also can incorporate UV stabilizers, photostabilizers, photoinitiators, co-initiators, antioxidants, colorants, dispersants, mold releasing agents, processing aids, inorganic fillers, organic fillers, or mixtures thereof.

The present invention also resides in a method for making a golf ball component selected from the group consisting of a core, a cover[[.]] and an intermediate layer located between a golf ball core and a cover, the method including preparing a composition comprising the above-specified triblock copolymer, a base polymer, and a polymeric modifier as defined above, and then incorporating the composition into the golf ball component. The step of preparing the composition can incorporate dry-blending the composition, or it can incorporate

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mixing the composition using a mill, internal mixer, or extruder. The step of mixing the composition also can incorporate melting the composition.

Other features and advantages of the present invention should become apparent from the following detailed description of the preferred embodiments.